# Independent Review Panel first impressions

2011 review

# Panel Tasks

- (1) Whether implementation of the RPA action met the intended purpose of the Action;
- (2) The agencies' response to and implementation of independent review panel recommendations from the prior year's OCAP Annual Review;
- (3) Study designs, methods, and implementation procedures used;
- (4) The effectiveness of the process for coordinating real-time operations with the technical teams;
- (5) Recommendations for adjustments to implementation of the RPA Actions or Suite of Actions for meeting their objectives.

# Overall impressions

- Significant progress has been made implementing RPAs
- However, the high flows did not test the hard decision
- Need to link RPA to fish outcomes

# Sacramento River temperature

- Implementation
  - Yes, except the Bend Bridge TCP
  - Link between fish and management needs to be more quantitative (e.g. temperature to egg survival)
  - X2 in wet years only but not needed in wet years
- Study design – no study
- Effectiveness of coordination
  - Temperature X2 coordination is not defined
- Adjustments to implementation of the RPA
  - Need web-based real time tracking of temperature measurements over system
  - Real-time projections of actions linked to physical and biological outcomes, e.g. temperature to egg survival
  - NOAA/NASA & BOR models need to be evaluated in a postseason retrospective analysis

# Clear Creek River temperature

- Implementation
  - Temperature implementation not achieved in 2011
- Study design
  - Gravel augmentation strategy needs improvement to consider
    - Gravel injection strategy; what areas of river can support what size fractions and volumes
    - What is gravel source, is it environmentally acceptable
  - Temperature control
    - Identify reasons for difficulty in predicting temperature pattern
      - Tributary heating?
      - Temperature curtain effectiveness?
- Effectiveness of coordination
  - Uncertain because difficulties in temperature/water management
  - BOR and NOAA decisions on water allocation need to be better linked to fish measures
- Adjustments to implementation of the RPA
  - Monitor tributaries
  - Tasks identified in report are useful but ambitious.
  - More holistic approach to consider community structure

# Delta Operations for Salmon/Sturgeon

- Implementation
- Study design
- Effectiveness of coordination
- Adjustments to implementation of the RPA

# Delta Smelt Action

- Implementation
  - Action 1: not implemented – It appears that if not triggered in wet year it will not be triggered in dry year.
  - Action 2: not implemented, loss was not close to concern levels
  - Action 3: not implemented, no juveniles were found
  - We do not know effect of action or no action on smelt populations
- Study design
  - We agree that turbidity as a trigger for actions is problematic
  - What does it mean when take is zero under pumping and negative OMR flow?
- Effectiveness of coordination
  - Collaboration between salmon and smelt OMR flow operations not developed. This will be important in low water years
  - Take and population levels are not necessarily linked
- Adjustments to implementation of the RPA
  - Need to develop new triggers incorporating to new sampling that addresses the proximal cues that trigger smelt life cycle transitions.

# Overarching issues

- Link RPAs to physical properties and fish measures (survival, routing, growth, production)
- Response time scales of actions, physical and biological measures are not matched.
- Continue to improve coordination of data analysis and management that yield greater transparency of decisions